

FLAGELLO et al. — 10/698,012  
Client/Matter: 081468-0302644

IN THE DRAWINGS:

Please replace the current drawings with the enclosed formal drawings.

FLAGELLO et al. -- 10/698,012  
Client/Matter: 081468-0302644

### REMARKS

The Abstract was objected to. The Abstract has been amended in accordance with the suggestion of the Office Action. Reconsideration and withdrawal of the objection to the Abstract are respectfully requested.

The Disclosure was objected to. Although Applicants believe that the distinction between translucent and transparent is adequately described in paragraph [0036], the specification, including the claims, has been amended in accordance with the suggestion of the Office Action. Reconsideration and withdrawal of the objection to the Disclosure are respectfully requested.

The drawings were objected to. Formal drawings are submitted herewith. Reconsideration and withdrawal of the objection to the drawings are respectfully requested.

Claims 1-11, 13, 14, 17, 18 and 21-23 were objected to. As discussed above, the claims have been amended in accordance with the suggestion of the Office Action. Reconsideration and withdrawal of the objection to claims 1-11, 13, 14, 17, 18 and 21-23 are respectfully requested.

Claims 1, 4, 6, 7, 9 and 12-14 were rejected under 35 U.S.C. §102(b) over Hesse et al. (East German Patent 224448 A1). The rejection is respectfully traversed.

Applicants enclose with this Amendment an English translation of Hesse et al. The following discussion is based on the translation.

Claim 1 recites a lithographic projection apparatus including a radiation system constructed and arranged to provide a beam of radiation. A support is constructed and arranged to supporting a patterning device, and the patterning device is constructed and arranged to pattern the beam of radiation according to a desired pattern. A substrate table is constructed and arranged to hold a substrate. A projection system is constructed and arranged to project the patterned beam of radiation onto a target portion of the substrate. A transparent plate positioned between an optical element of the projection system and the substrate. A first fluid having a first index of refraction filling a first space is between the substrate and the transparent plate and a second fluid having a second index of refraction filling a second space is between the transparent plate and the optical element. The first and second indices of refraction are different.

There is no disclosure or suggestion by Hesse et al. of first and second fluids having different first and second indices of refraction, as recited in claim 1. As clearly disclosed on page 5, lines 13-18, of the translation, the media (immersion liquids 3, 10 and 14) through

FLAGELLO et al. -- 10/698,012  
Client/Matter: 081468-0302644

which the optical path between the projection lens interface 4 and the photosensitive layer 8 passes has approximately the same index of refraction as the photosensitive layer 8. Hesse et al. disclose that this is accomplished by having the refractive indices of the immersion liquids 3, 10 and 14 approximately match.

Claim 12 recites a method including, *inter alia*, filling a space between an optical element of a projection system and the substrate with first and second fluids having first and second indices of refraction, respectively, wherein the first and second indices of refraction are different.

There is no disclosure or suggestion by Hesse et al. of filling a space between an optical element of a projection system and the substrate with first and second fluids having first and second indices of refraction, respectively, wherein the first and second indices of refraction are different. As discussed above, Hesse et al. disclose that the immersion liquids 3, 10 and 14 have approximately matching refractive indices.

Claims 4, 6, 7, 9, 13 and 14 recite additional features of the invention and are allowable for the same reasons discussed above with respect to claims 1 and 12 and for the additional features recited therein.

Reconsideration and withdrawal of the rejection of claims 1, 4, 6, 7, 9 and 12-14 over Hesse et al. are respectfully requested.

Claims 1, 2, 4, 6, 7, 9, 12-14, 15, 18, 22 and 23 were rejected under 35 U.S.C. §102(b) over Stevens (U.S. Patent 3,648,587). The rejection is respectfully traversed.

The Office Action on page 5, paragraph number 9, alleges that Stevens discloses a radiation system constructed and arranged to provide a beam of radiation, a support constructed and arranged to support a patterning device, the patterning device being constructed and arranged to pattern the projection beam according to a desired pattern, and a substrate table constructed and arranged to hold a substrate and a projection system constructed and arranged to project the pattern beam onto a target portion of the substrate. It is respectfully submitted, however, that Stevens does not disclose or suggest these features.

Stevens discloses an optical instrument and methods for microphotography, for producing greatly reduced high-resolution photographic copies. See column 1, lines 3-5. In the optical instrument and methods, a photographic emulsion is exposed to light during a predetermined exposure and conventional techniques are used for producing a visible image in the emulsion. See column 2, lines 59-62. Various liquids may be used in carrying out Steven's invention, although liquids that do not adversely affect the emulsion, for example,

FLAGELL() et al. -- 10/698,012  
Client/Matter: 081468-0302644

by causing it to swell, are preferred by Stevens, such as xylene having approximately the same refractive index as the emulsion, which will normally be mainly gelatin. See column 2, lines 65-70.

As discussed above, there is no disclosure or suggestion by Stevens of a radiation system constructed and arranged to provide a beam of radiation, a support structure constructed and arranged to support a patterning device, the patterning device being constructed and arranged to pattern the beam of radiation according to a desired pattern, a substrate table constructed and arranged to hold a substrate and a projection system constructed and arranged to project the pattern beam of radiation onto a target portion of the substrate. Stevens merely discloses producing greatly reduced high-resolution photographic copies in an emulsion. Accordingly, Stevens cannot anticipate or render obvious claim 1.

Stevens also does not anticipate or render obvious claim 12 as Stevens does not disclose or suggest projecting a pattern beam of radiation onto a target portion of a layer of a radiation-sensitive material at least partially covering a substrate.

Claims 2, 4, 6, 7, 9, 13, 14, 15, 18, 22 and 23 recite additional features of the invention and are allowable for the same reasons discussed above with respect to claims 1 and 12, respectively, and for the additional features recited therein.

It is also noted that claims 22 and 23 depend from claim 21 which has been indicated as allowable by the Examiner. Accordingly, at least for these reasons, it is respectfully submitted that claim 22 and 23 are allowable.

Claims 10, 11, 19 and 20 were rejected under 35 U.S.C. §103(a) over Stevens in view of Sewell (U.S. Patent 6,809,794). The rejection is respectfully traversed.

Claims 10, 11, 19 and 20 recite additional features of the invention and are allowable at least for the reasons discussed above with respect to claims 1 and 12, respectively, and for the additional features recited therein. In addition, it is respectfully submitted that Sewell fails to cure the deficiencies of Stevens with respect to claims 1 and 12 and even assuming it would have been obvious to combine the references, such a combination would not have resulted in the invention of claims 1 and 12.

Reconsideration and withdrawal of the rejection of claims 10, 11, 19 and 20 over Stevens in view of Sewell are respectfully requested.

In view of the above amendments and remarks, Applicants respectfully submit that all the claims are allowable and that the entire application is in condition for allowance.

FLAGELLO et al. -- 10/698,012  
Client/Matter: 081468-0302644

Should the Examiner believe that anything further is desirable to place the application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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Attachments:

Formal Drawings (Figs. 1-6)  
English Translation of DD 224 448 A1